REMARKS

Claim 2 has been canceled and the content incorporated into claim 1. Claim 1 had provided a limitation that the triplet energy of the efficiency material could not be more than 0.2 eV less that that of the emitter; in other words, it could be higher than or not more than 0.2 less than that of the emitter. Claim 2 then further narrowed this to the "higher than" alternative. This limitation is now included in Claim 1.

Claim 1 has also been amended to limit the triplet energy of the phosphorescent guest to be lower than the triplet energy value of the host as supported at page 7, line 11 of the specification.

Claims 1-4, 6-16, 18-22 and 28-30 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Seo et al. (US 2002/0086180 A1). According to the Examiner:

> Seo sets forth organic luminescent elements comprising a bipolar-natured mixed layer comprising a hole transporting material and an electron transporting material (see abstract). The mixed region further comprises luminescent material (see par. 154 and 187). Seo sets forth an example comprising a bipolar mixed layer comprising 4,4'-N,N'-dicarbazole-biphenyl (referred to as "CBP") and hole transporting compound NPD (see par. 251, page 16). Light emitting material $IR(ppy)_3$ is doped into the bipolar-natured mixed layer (see par. 252). With regard to claims 11-14, the amount of $Ir(ppy)_3$ is 6% wt. Although Seo does not set forth an example using 4,4',4"-Tris [3methylphenyl) pheylamino] triphenylamine (referred to as MTDATA) in place of NPD, Seo teaches MTDATA is an equivalent hole transporting material (see par. 183). Accordingly, it would have been obvious to one of ordinary skill in the art to have formed a device with a bipolar-natured mixed layer comprising CBP, $Ir(ppy)_3$ and MTDATA, because Seo clearly teaches MTDATA and NPD are similar hole transporting materials. Because Seo discloses the same materials as applicant, the properties of claim 1 are deemed to be inherently met by the reference. With regard to claim 23, it would have been obvious to one of ordinary skill in the art to have further incorporated an additional host material other than CBP, because absent evidence otherwise, "[i]t is prima facie obvious to combine two compositions taught by the prior art as useful for the same purpose, in order to form a third composition which is to be used for the very same purpose" (see In re Kerkhoven, 205 USPQ 1069, 1072 (CCPA 1980); In re Susi, 169 USPQ 434, 426 (CCPA 1971); In re Crockett, 126 USPQ 186, 188 (CCPA 1960)). With regard to claims 28-30, Seo discloses displays incorporating the devices (see Figures).

The independent claim has been limited such that the triplet energy of the phosphorescent guest must be lower than the triplet energy value of the host. As demonstrated by the enclosed declaration of Marina Kondakova, the triplet energy levels of compounds BAlq and NPB of Seo et al. are less than the triplet energy of the phosphorescent dopant. Therefore, BAlq and NPB of Seo et al. would not be efficient host materials. Based on what is shown in the declaration, the amended claim logically excludes the ineffective examples provided in Seo at al. The present invention uses triplet energy values to determine a suitable host material. Data from the specification of the present invention demonstrates improved results over that of Seo et al. The examples provided in Seo et al. do not meet the claim requirement due to the triplet energy values of the host materials. It appears that the examples of Seo et al. are potentially prophetic examples. The examples of Seo et al. do not provide any specific data. Further, the efficiency-enhancing agent is preferably an aromatic amine compound. Note in particular claim 15 which limits the efficiency enhancing material to compounds which are tertiary aromatic amines. There is no teaching or suggestion to modify Seo et al. to reach the instant invention. Therefore, it is respectfully requested that the 35 U.S.C. 103 (a) rejection as being unpatentable over Seo et al. be reconsidered and withdrawn.

The enclosed declaration under 37 CFR 1.132 compares the triplet energy calculations for the compounds of Seo et al. to the triplet energy of the phosphorescent dopant. The triplet energy levels for the compounds BAlq and NPB of Seo et al., the only three way systems shown as best mode, are less than the triplet energy of the phosphorescent dopant. Therefore, the best modes taught in Seo do not involve or suggest selection of materials within the limitations of claim 1.

Claims 24-27 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Seo et al. (US 2002/0086180 A1) in view of Tokito et al. (US 2003/0091862). According to the Examiner:

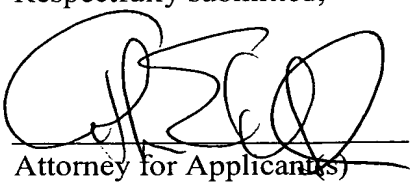
> Seo et al. is relied upon as set forth above. Seo et al. teaches incorporating a green phosphorescent material in the light emitting layer (the iridium compound), but fails to teach specifically a red or blue phosphorescent material may also be used. Tokito et al. teaches in analogous art the use of blue or red phosphorescent material as equally suitable for a light emitting device as a green phosphorescent material (see par. 117). It would have been obvious for one of ordinary skill in

the art at the time of the invention to have made a device comprising red emitting and blue emitting phosphorescent compounds in addition to the green emitting iridium compound, because Tokito et al. teaches red emitting and blue emitting phosphorescent compounds that are equally suitable as a phosphorescent material in a light emitting layer. It would have been obvious to have incorporated additional luminescent materials, because they are useful for the same purpose (i.e., light emission). Seo et al. also fails to each a color filter is used in the device. Tokito et al. teaches in analogous art it is well known to incorporate a filter into a light emitting device in order to achieve a desired color (i.e., white light) (see par. 70). It would have been obvious to one of ordinary skill in the art to have further included a color filter in the Seo et al. device, because Tokito et al. teach a filter is a commonly known means of achieving desired light emission color.

As stated above, there is no teaching or suggestion to modify Seo et al. to reach the instant invention as the enclosed declaration demonstrates, the triplet energy levels of compounds BAlq and NPB of Seo et al. are less than the triplet energy of the phosphorescent dopant. Therefore, the amended claims no do not cover the examples provided in Seo at al. The deficiencies in the Seo reference can not be overcome by Tokito et al. Tokito does not teach or suggest the use of a three component system comprising a host material, dopant material, and an energy-enhancing material having the necessary relationships of triplet energy and ionization values. There is no disclosure or suggestion in any combination of Seo et al. and Tokito et al. that would motivate one to arrive at the instantly claimed invention. Therefore, it is respectfully requested that the 35 U.S.C. 103 (a) rejection as being unpatentable over Seo et al. in view of Tokito et al. be reconsidered and withdrawn.

The Examiner is respectfully requested to withdraw the 35 U.S.C. 103 (a) rejections and issue a Notice of Allowance.

Respectfully submitted,



Attorney for Applicant(s)
Registration No. 25,518

Arthur E. Kluegel/dlm
Rochester, NY 14650
Telephone: 585-477-2625
Facsimile: 585-477-1148

If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.